

**WHAT IS CLAIMED IS:**

1. A process for loading a biological sample comprising;  
loading with a solute a biological sample having an alcohol  
by fluid phase endocytosis to produce an internally loaded  
biological sample.
2. The process of Claim 1 wherein said loading a biological  
sample by fluid phase endocytosis comprises fusing within the  
biological sample a first matter with a second matter to produce  
a fused matter.
3. The process of Claim 2 wherein said first matter comprises  
the solute.
4. The process of Claim 2 wherein said first matter comprises  
a vesicle having the solute.
5. The process of Claim 2 wherein said second matter comprises  
a lysosome.
6. The process of Claim 4 wherein said second matter comprises  
a lysosome.
7. The process of Claim 2 wherein said fused matter comprises  
the solute.
8. The process of Claim 6 wherein said fused matter comprises  
the solute.
9. The process of Claim 2 wherein said loading a biological  
sample by fluid phase endocytosis additionally comprises

transferring the solute from the fused matter within the biological sample.

10. The process of Claim 8 wherein said loading a biological sample by fluid phase endocytosis additionally comprises transferring the solute from the fused matter within the biological sample.

11. The process of Claim 9 wherein the solute is transferred from the fused matter into a cytoplasm within the biological sample.

12. The process of Claim 10 wherein the solute is transferred from the fused matter into a cytoplasm within the biological sample.

13. The process of Claim 2 wherein said fused matter comprises a lower pH than a pH of the first matter.

14. The process of Claim 12 wherein said fused matter comprises a lower pH than a pH of the first matter.

15. The process of Claim 2 wherein said fused matter comprises a less than about 6.5.

16. The process of Claim 1 wherein said biological sample includes a biological sample selected from a group of biological samples comprising a platelet and a cell.

17. The process of Claim 1 wherein said solute comprises trehalose.

18. The process of Claim 1 wherein said biological sample comprises membrane microdomains having said alcohol.
19. The process of Claim 1 wherein said alcohol comprises a steroid alcohol having a common steroid nucleus including an 8 to 10-carbon-atom side-chain.
20. The process of Claim 18 wherein said alcohol comprises a steroid alcohol having a common steroid nucleus including an 8 to 10-carbon-atom side-chain.
21. The process of Claim 1 wherein said alcohol comprises cholesterol.
22. The process of Claim 18 wherein said alcohol comprises cholesterol.
23. The process of Claim 1 wherein said biological sample comprises said alcohol in a concentration ranging from about 10 wt. % to about 70 wt. %.
24. The process of Claim 22 wherein said biological sample comprises said cholesterol in a concentration ranging from about 10 wt. % to about 70 wt. %.
25. The process of Claim 1 additionally comprising generally maintaining an intact cytoskeleton within said biological sample during said loading of the solute.

26. The process of Claim 1 wherein said biological sample comprises a generally intact cytoskeleton.

27. A biological sample produced in accordance with the process of Claim 1.

28. A process for preparing a dehydrated biological sample comprising:

    providing a biological sample selected from a mammalian species;

    loading with a solute the biological sample having an alcohol by fluid phase endocytosis to produce an internally loaded biological sample; and

    drying the loaded biological sample to produce a dehydrated biological sample.

29. The process of Claim 28 additionally comprising maintaining a generally intact actin cytoskeleton within the biological sample during said loading with a solute.

30. The process of Claim 28 additionally comprising maintaining generally intact membrane microdomains within the biological sample during said loading with a solute.

31. The process of Claim 28 wherein said loading of the biological sample with a solute comprises loading of the biological sample with an oligosaccharide from an oligosaccharide solution.

32. The process of Claim 28 wherein said biological sample includes a biological sample selected from a group of biological samples comprising a platelet and a cell.

33. The process of Claim 28 wherein said solute comprises trehalose.

34. The process of Claim 28 wherein said biological sample comprises membrane microdomains having said alcohol.

35. The process of Claim 28 wherein said alcohol comprises a steroid alcohol having a common steroid nucleus including an 8 to 10-carbon-atom side-chain.

36. The process of Claim 32 wherein said alcohol comprises a steroid alcohol having a common steroid nucleus including an 8 to 10-carbon-atom side-chain.

37. The process of Claim 28 wherein said alcohol comprises cholesterol.

38. The process of Claim 32 wherein said alcohol comprises cholesterol.

39. The process of Claim 28 wherein said biological sample comprises said alcohol in a concentration ranging from about 10 wt. % to about 70 wt. %.

40. The process of Claim 36 wherein said biological sample comprises said cholesterol in a concentration ranging from about 10 wt. % to about 70 wt. %.

41. The process of Claim 28 additionally comprising generally maintaining an intact cytoskeleton within said biological sample during said loading of the solute.

42. The process of Claim 28 wherein said biological sample comprises a generally intact actin cytoskeleton.

43. The process of Claim 39 wherein said maintaining an intact cytoskeleton comprises generally excluding any chemical from the loading solution which dissassociate filamentous actin.

44. The process of Claim 30 wherein said maintaining generally intact membrane microdomains within the biological sample during said loading with a solute comprises essentially excluding from the loading solution any chemical which would remove alcohol from the biological sample during loading.

45. The process of Claim 1 wherein said loading comprises loading a solute from a solute solution comprising less than about 15.0 % by weight an agent which affects actin sytoskeleton of the biological sample, causing a hindrance of the loading efficiency of a solute from the solute solution into the biological sample.

46. The process of Claim 1 wherein said loading comprises loading a solute from a solute solution comprising less than about 25.0 % by weight of an agent which affects membrane

microdomains of a biological sample by the removal of the alcohol from the membrane microdomains.

47. The process of Claim 1 wherein said alcohol comprises a generally water insoluble alcohol.

48. A biological sample produced in accordance with the process of Claim 28.

49. A process for loading a biological sample comprising:  
loading a biological sample with an alcohol, and loading the biological sample with a solute.

50. The process of Claim 49 wherein said alcohol comprises cholesterol, and said loading with a solute comprises loading by fluid phase endocytosis to produce an internally loaded biological sample.